

REMARKS:

This Amendment is responsive to the Office Action mailed February 8, 2002.

Claims 11 to 19 are pending.

The specification has been conformed to correspond to the preferred format for U.S. patent applications as required in the Office Action, and a Substitute Specification is submitted herewith.

Requirement for Restriction

Restriction has been required under 35 USC 121 as follows:

- | | |
|---------|--------------------------------------------------------------------------------------------------------------|
| Group 1 | Claims 1 to 8, drawn to a static mixer, classified in class 366, subclass 336. |
| Group 2 | Claim 9, drawn to a casting or molding method, classified in class 164, subclass 15. |
| Group 3 | Claim 10, drawn to "use" of a mixer in injecting molding machines, classified in class 264, subclass 328.18. |

Applicant acknowledges the election made by J. Georg Seka on January 29, 2002 electing with traverse the prosecution of Group 1. Affirmation of this election is hereby made. As a result, claims 1 to 8 were the subject of the first Office Action in this prosecution.

There is no amendment to the inventors pursuant to the Requirement for Restriction.

Claim Objections

The Examiner has reserved the right to impose further restriction due to the format of originally submitted claims 5 to 8. These claims find their current counterpart in claims 15 to 19. As these claims are all dependent upon independent claim 11, it is submitted that the imposition of a further requirement for restriction is not warranted.

Claim Rejections - 35 USC 112

The claims have been redrafted in accordance with domestic United States practice. In claim 11, the terms "in particular", "their circumference", "the entire

circumference", and "the elements" have been removed. Additionally, in the present redrafting of the claims, clear differentiation has been made between the "precision cast static mixer elements (1)" and the "intermediate elements (2)".

In claim 14, it has been made clear that the longitudinally slit cylinder (5) holds the precision cast static mixer elements (1) and the intermediate elements (2) together.

In claim 15, it has been made clear that claim 15 qualifies the static mixer of claim 11. Further, the double inclusion of a broad range and a narrow range, permitted by foreign practice but prohibited by domestic practice, has been removed.

Claim Rejections

Original claims 1 to 4 (now 11 to 14) have been rejected under 35 USC 102(e) as being anticipated by Ogasawara et al. (US 6,109,781). Further, claims 1 to 5 (now 11 to 15) have been rejected under 35 USC 102 (b) as being anticipated by King (US 4,614,440). Claims 5 to 8 (now claims 15 to 19) have been rejected as obvious over Ogasawara et al. Additionally, claims 6 and 8 (now claims 16 and 19) have been rejected over King '440.

First, the claims have now all been redrafted in accordance with domestic United States practice. Accordingly, applicants will first summarize the invention as it is set forth in claim 11. Thereafter, Ogasawara et al. and King '440 will be distinguished. It will be emphasized that neither anticipation nor obviousness is present in the invention as claimed. Allowance will be urged.

Invention Summarized

The invention relates to static mixers including precision cast static mixer elements (1). These precision cast static mixer elements are arranged along a central axis (10) with each precision cast static mixer element having a reinforcement region (4).

The precision cast static mixer elements (1) have intermediate elements (2) for abutment to the precision cast static mixer elements (1) at their reinforcement region (4) to form in combination a static mixer body of a preselected length which can readily be adjusted.

Joints are defined between the reinforcement region (4) and the intermediate

elements (2). These joints form continuous joint locations (40a, 40b and 20a, 20b) between the reinforcement regions (4) and the intermediate elements (2).

At least one of the continuous joint locations (40a, 40b and 20a, 20b) forms a continuous protruding joint surface to readily machine the continuous protruding surface and thereby adjust to the length of the static mixer body.

With respect to claim 2, it is made clear that the continuous protruding joint surface is a part of the reinforcement region (4).

Regarding the utility of this invention, the Examiner's attention is respectfully requested to the description of Fig. 6. Presuming that the elements (1) and (2) are placed in a precision stack having a length L, the specification points out the necessity of having a precise length L. With this invention, a worker can remove one of the elements, preferably cast element (1), machine a single surface, on a lathe or grinder, for example, and then reassemble the stacked elements (1) and (2) to attain the desired length L. As will be hereinafter emphasized, this procedure cannot be reproduced by the prior art.

References Distinguished

Having summarized the invention of claims 1 and 2, attention can now be devoted to comparing these claims with the Ogasawara et al. and King '440 references cited.

First, the attention of the Examiner is directed to Figs. 1 and 2 of the application herein. Observation of the ring-shaped surfaces 40a, 40b and 20a, 20b is requested. It is to be noted that both the surfaces are continuous about the central static mixer elements.

Second, and referring to Figs. 1 and 2, it will be noted that continuous joint locations 40a and 40b form "continuously protruding surfaces" to enable their machining to provide adjustment to the overall (preselected) static mixer length.

Third, the specification makes clear in the descriptions of Figs. 1, 2 and 3 that the surfaces (40a, 40b and 20a, 20b) "form the only joint locations" between the static parts. Thus, when the stacked parts are held together, sealing occurs between the surfaces 20a and 40b. Moreover, when surface 40b is machined, a reduction in the length L illustrated in Fig 5 must occur.

It is important to note that machining of the surface 20a would be much more difficult. Specifically, protrusions 21, 21' would interfere with machining.

It is seen that by machining at a single protruding surface, adjustment to the overall length of the static mixer can be accomplished with precision (to tolerances greater than 0.1 mm.). It is to be noted that such machining will leave intact the seal of the ring-shaped surfaces referred to above.

The question then becomes: Can any of the references, Ogasawara et al. or King '440 provide or suggest a similar result? It is submitted that the answer is no.

Referring to Ogasawara et al. at Figs. 2 and/or 3, machining at a surface transverse to the axis of the illustrated cylinders will shorten the units when assembled. However, there will be no "continuous joint locations (40a, 40b and 20a, 20b) at the reinforcement regions (4) and the intermediate elements (2)". (See claim 11). Instead, the continuity of the continuous joint locations will be interrupted (if they existed in the first instance). The machining at a single surface will not adjust the overall preselected length of the assembled static mixer and still preserve the desired seal.

Further, and referring to King '440 at Fig. 4, again, no surface is present where machining of that surface will affect adjustment of the overall static mixer length while maintaining the "continuous joint locations".

It is suggested that given the novelty above, none of the dependent claims are obvious in view of the references. Claim 13 relates to cut-outs placed into the intermediate elements (2); claim 14 to the slit cylinder holding the static mixer together; claims 15 through 18 to the particular gridwork of the static mixer; and finally claim 19 relates to placement of the cut-outs to afford the respective 90° offset between the respective mixer elements.

In view of the foregoing, applicants submit that this application is now in condition for allowance. The issuance of a formal notification to that effect at an early date is requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,

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